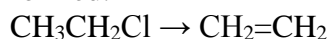


ANSWERS: Reactions of haloalkanes

1) This is a substitution reaction. An atom (Cl) is being replaced with another group of atoms (NH₂)
In **Reaction Three**; the Cl atom is replaced by NH₂. No conditions are required.

2) Chloroethane reacts with KOH(aq) to form an alcohol in a substitution reaction; Cl is replaced by OH.
 $\text{CH}_3\text{CH}_2\text{Cl} \rightarrow \text{CH}_3\text{CH}_2\text{OH}$

Chloroethane reacts with KOH(alc) to form an alkene in an elimination reaction; H and Cl removed / HCl formed.



Chloroethane reacts with NH₃(alc) to form an amine in a substitution reaction; Cl is replaced by NH₂
 $\text{CH}_3\text{CH}_2\text{Cl} \rightarrow \text{CH}_3\text{CH}_2\text{NH}_2$